

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V #V-05-015
PERIOD, INC.
MADISONVILLE, KENTUCKY
FEBRUARY 9, 2005
RALPH GOUGE, PERMIT REVIEWER
PLANT ID #21-107-00141
ACTIVITY #APE2005001
AI #1903

SOURCE DESCRIPTION:

Period, Inc., has applied to the Division for Air Quality for a permit renewal for the operation of a wooden furniture manufacturing facility in Madisonville, Kentucky. This operation involves wood processing and finishing equipment. Kiln-dried lumber is shaped and smoothed using a variety of woodworking equipment. Pieces are glued, as necessary, using hand-held glue guns. Finishing takes place both on an assembly line and in a separate off-line booth. Pieces are stained and varnished, or stained, sealed, and top coated. The booths are lined with a strippable coating. Ovens are used after sealing and after application of each of the two top coatings, for a total of three ovens.

EMISSION AND OPERATING CAPS:

Currently, Period is permitted under a Synthetic Minor/Title V operating permit, #V-00-021. The Synthetic Minor/Title V permit was originally issued because the potential to emit volatile organic compounds (VOC) was greater than 250 tons per year. The potential emission calculations were based on vendor spray gun information, data from Material Safety Data Sheets for the coatings, and estimated production rates.

Since the issuance of the Synthetic Minor/Title V permit on May 25, 2000, actual production records indicate that the maximum application rate is less than originally expected. Additionally, more environmentally friendly coatings are being used by the facility. Consequently, the potential to emit volatile organic compounds (VOC) is less than 250 tons per year and actual emission rates are significantly less than major source thresholds for both VOC and hazardous air pollutants (HAP). Period requested that their renewal permit be changed to a conditional major. But, since the NESHAP for wood furniture manufacturing is applicable, they must remain a Title V source. Period has voluntarily accepted a plantwide VOC emission limit of 90 tons for any consecutive twelve (12) month period. In accepting this limit, Period will avoid applicability of 401 KAR 50:012, General Application of Administrative Regulations and Standards.

40 CFR 63 National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations, limits VHAP content of coatings used in furniture finishing operations to 1.0 pound VHAP/pound of solid for washcoats, sealers, topcoats, basecoats, stains, and enamels. Thinners are limited to 10 percent VHAP, by weight. The source can, as an alternative, achieve a weighted average VHAP content for all coatings of 0.80 pound VHAP/pound solid, as applied.

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operations, applies to each affected facility commenced on or after July 2, 1975, with respect to particulate emissions.

401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances, applies to each affected facility that emits or may emit potentially hazardous matter or toxic substances.

40 CFR 63 National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart JJ, National Emission Standards for Wood Furniture Manufacturing Operations, Inc., applies to each affected facility that is considered a major source as defined in 40 CFR Part 63, subpart A, §63.2.

COMMENTS:

A toxics analysis was performed using the SCREEN3 model. Period was modeled as a point source, at distances from 100 meters to 1,000 meters away from the emission point. Based on an emission rate of 1.0 gram/second, the maximum 1-hour concentration was 146.6 $\mu\text{g}/\text{m}^3$ at a distance of 159.0 meters. The calculated concentrations of all of the air toxics at the source are below the levels specified by the Office of Air Quality Planning and Standards (OAQPS).

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.